MATH 0362 **Name:_____**

PRACTICE TEST 4 – CHAPTERS 9, 10

Beginning and Intermediate Algebra by Messersmith and Feldman, 4th edition

Solve the absolute value equations.

1. $|2x-6|=-5$
2. $|5-8y|=1$
3. $|14z-7|-17=-17$
4. $|6b+3|-8=3$
5. $|3m+2|=|6m-20|$

Solve the inequalities. Graph the solution sets and write the answers in interval notation.

6. $|2c+6|+2\le 14$
7. $|4b+8|-18>2$
8. $|3x-6|+2<20$
9. $|2x+5|-3\ge 8$

Graph the inequality.

10. $y<-\frac{1}{2}x-7$
11. $6x+2y>12$

Graph each compound inequality.

12. $y\le\frac{3}{4}x+2$ *and* $y\ge 2$
13. $x<-3$ *and* $y>\frac{3}{4}x+3$

Find the following roots, if possible.

14. $-\sqrt[3]{-125}$
15. $\sqrt[4]{\frac{16}{81}}$
16. $\sqrt{1-4}$

Write in radical form and evaluate.

17. $121^{1/2}$
18. $\left(\frac{4}{25}\right)^{1/2}$
19. $(-216)^{1/3}$

Simplify completely. Assume all variables represent positive real numbers.

20. $\sqrt{72x^{16}}$
21. $\sqrt{75x^{17}y^{9}}$
22. $\sqrt[3]{32t^{11}u^{7}}$
23. $\sqrt[3]{\frac{27a^{17}}{b^{12}}}$
24. $\sqrt[3]{3x^{11}} \cdot \sqrt[3]{9x^{6}}$

Perform the operation and simplify.

25. $\sqrt{147} - 3\sqrt{12} + 8\sqrt{108}$
26. $\left(\sqrt{5p} + 5\sqrt{q}\right)\left(4\sqrt{5p} - \sqrt{q}\right)$

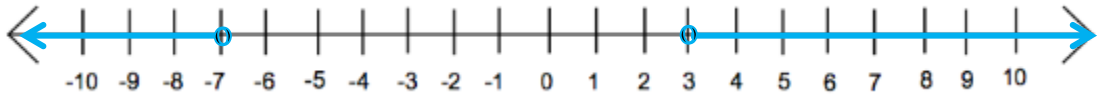
Rationalize the denominators of the expressions.

27. $\frac{\sqrt{8}}{\sqrt{45}}$
28. $\frac{\sqrt{6}}{\sqrt{m}}$
29. $\sqrt{\frac{36x^{3}}{5y}}$
30. $\frac{4}{7-\sqrt{2}}$

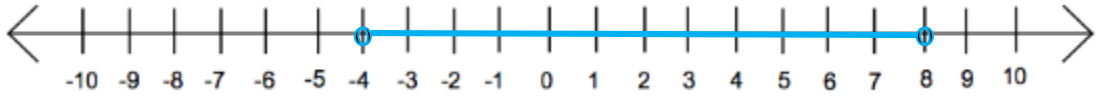
Practice Test 4 Chapters 3, 4, 5, 8 Answers

1. No solution
2. $y = \left\{\frac{1}{2}, \frac{3}{4}\right\}$
3. $z = \left\{\frac{1}{2}\right\}$
4. $b = \left\{-\frac{7}{3}, \frac{4}{3}\right\}$
5. $m = \left\{2, \frac{22}{3}\right\}$
6. [-9, 3]

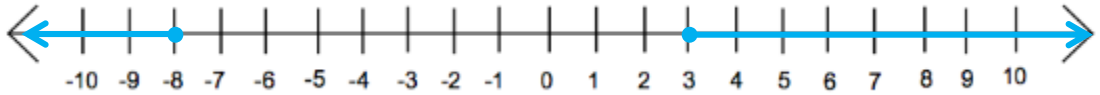
7. $(-\infty, -7) \cup (3, \infty)$

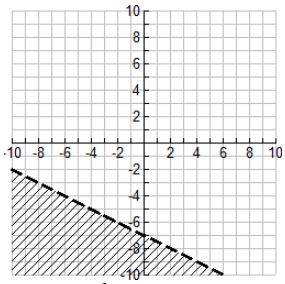


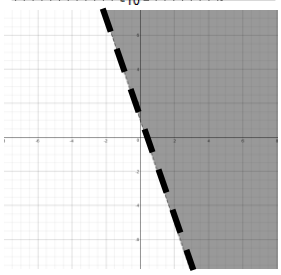
8. $(-4, 8)$

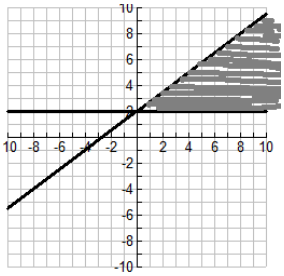
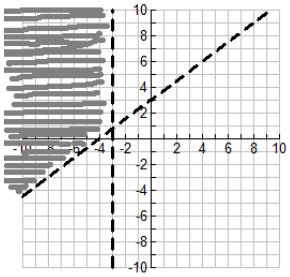


9. $(-\infty, -8] \cup [3, \infty)$



10. 

11. 

12. 
13. 
14. 5
15. $\frac{2}{3}$
16. not real
17. 11
18. $\frac{2}{5}$
19. -6
20. $6x^8\sqrt{2}$
21. $5x^8y^4\sqrt{3xy}$
22. $2t^3u^2\sqrt[3]{4t^2u}$
23. $\frac{3a^5\sqrt[3]{a^2}}{b^4}$
24. $3x^5\sqrt[3]{x^2}$
25. $49\sqrt{3}$
26. $20p-5q+19\sqrt{5pq}$
27. $\frac{2\sqrt{10}}{15}$
28. $\frac{\sqrt{6m}}{m}$
29. $\frac{6x\sqrt{5xy}}{5y}$
30. $\frac{28+4\sqrt{2}}{47}$